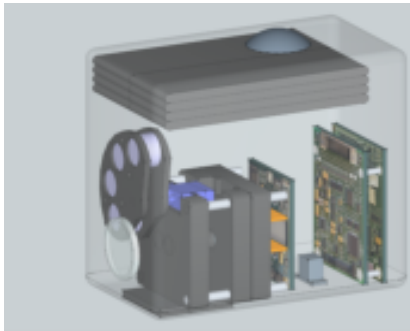


Two-Dimensional Gas Imaging Introducing the Affordable SO₂ Gas Camera



A small efficient field unit for the imaging of SO₂ emissions is now commercially available. Sulfur dioxide plumes from industrial stacks or natural sources such as volcanoes, can be imaged and measured using gas correlation combined with IR imagery. By using two adjacent optical paths, the correlation calibration cells remain in the optical paths and eliminate the need for moving parts. The Gas Camera user interface is in LabVIEW for versatile data use. This interface comes with a range of features and can easily be further customized. There are flexible options for the CCD (including air cooling and choice of resolutions) should your application require specialized features. The handheld sensor has been ruggedized and sealed to withstand harsh environments. Data can be collected at significant distances (>10km) from the source. Future options will include additional gas species.

The Gas Camera images sulfur dioxide plumes in the atmosphere yielding false color images showing concentration. The miniaturized robust field instrument is ideal for environmental and earth science applications. There is no other commercially available complete package that can remotely detect and measure the concentration of SO₂ and map it two-dimensionally in real-time. The Gas Camera comes with standard GPS and compass with tilt sensor and simply connects to a laptop via the USB. The rugged system can come with optional wireless real-time output. The LabVIEW interface is easily modified to accommodate specialized applications.

Applications

- VUV materials studies
- PDP phosphor evaluation
- Photochemical cleaning of materials in vacuum
- VUV wavelength calibration & optical alignment of synchrotron instrumentation
- Photo-ionization for gas and particulate detection
- Water vapour detection in vacuum system.
- VUV flat fielding of CCD cameras
- Orbital solar simulation